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Note on the Occultation of Jupiter. By J. F. Goddard, Esq.

"I take the liberty of sending you an account of my observation of this phenomenon. I used an achromatic telescope of $4\frac{1}{8}$-inch aperture, and power of 200. Circumstances were very favourable; not a cloud passed, there was little or no wind, and the smoke of London did not drift in our direction.

"The planet approached the north point of the moon's limb nearly in the direction of a tangent to that point, passing the invisible limb at a small distance, and making its first contact with the moon at the limit of light and darkness; it remained on the edge a little while, and one-fourth of its disk was gradually obscured, a darkish line being sensible between. The planet glided along the bright circular outline of the moon; its hue was duller than that of the moon. I could not affirm that any alteration of size or figure occurred, but I took no measurements. The centre of *Jupiter* was not occulted, only, as near as I could guess, one-fourth of his diameter. The belts and one satellite were conspicuous all the time.

"The observation was made about half-a-mile south of Hounslow Railway Station.

"*Jesse Cottage, Whitton, near Isleworth,*
November 13*th*, 1856."

Note respecting the Occultation of Jupiter by the Moon.
By Lord Wrottesley.

"We looked out for the occultation of *Jupiter*, but none took place here. The moon passed about four diameters of *Jupiter* to the south of the planet. We observed, however, an eclipse of the third satellite of *Jupiter* by the planet.

"Disappearance at $11^h\ 9^m\ 45^s$, M. T. at Wrottesley.
"Reappearance at $13^h\ 52^m\ 41^s$ M. T. ,,

"The former gives a very fair longitude.

"*Wrottesley, Nov.* 10, 1856."

Observation of a Lunar Occultation of Jupiter's fourth Satellite, made at Haddenham, Bucks, November 8, 1856. By the Rev. W. R. Dawes.

"The conjunction of the moon with *Jupiter* on the 8th of this month presented, as seen from this place, the rare phenomenon of an occultation of a satellite, while the planet itself escaped being even partially occulted. At the nearest approach, the southern limb of *Jupiter* was still about 20″ or 25″ by estimation from the

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northern edge of the moon. The fourth satellite was the only one visible until within a few minutes before the time of conjunction, when the egress of the first took place (at about $13^h\ 5^m$ G. M. T.). Being in the south-following portion of its apparent orbit, it was caught by the moon in consequence of her rapid advance in declination northward, disappearing at the dark edge of the moon, and reappearing at the bright edge. My large equatoreal not having been remounted since my removal from Wateringbury, I employed a very perfect refractor by Merz of Munich, having an aperture of only $2\frac{1}{2}$ inches. With this the fourth satellite, though at times faint, and seen with difficulty when the air was much disturbed, yet was traced satisfactorily up to the moon's dark edge; but at the reappearance of the bright edge, it was not seen with certainty till it was distant from the limb about two of its own diameters. The duration of its occultation is therefore uncertain. The shadow of the first satellite was very obvious on the large belt in the southern hemisphere of the planet.

"P.S. The approximate geographical position of my present temporary residence is: longitude, $3^m\ 40^s$ west; latitude, 51° 46′ north.

"*Haddenham, Bucks, 10th November,* 1856."

In answer to some inquiries on the part of Mr. De La Rue, Mr. Dawes makes the following observations:—

"I am obliged by your note of the 12th, to which I have been, till now, unable to reply. I was struck, as you were, with the difference of tint of *Jupiter* and the moon. Though the approach was so much closer as seen from here than at Nottingham, I did not perceive the slightest distortion of *Jupiter's* form similar to that described by Mr. Lowe in his letter to the *Times*.

"*Haddenham, Bucks,* 20 *Nov.* 1856."

Observations of Jupiter, during October 1856. By Warren De la Rue, Esq., Ph.D., F.R.S.

"*Jupiter* has been during the present apparition a most remarkable and interesting object, both on account of the great amount of detail to be seen on his belts, and also of the changes which obviously occur in them during very short intervals. The general appearance of the belts recalls very vividly the mottled and streaked appearance frequently presented by clouds, but no description can convey an accurate notion of the markings on the planet without the aid of graphic representations. There is, however, very great difficulty in making drawings of *Jupiter*, in consequence, partly of the overwhelming amount of details to be seen, and partly on account of the short period allowed by the rapid axial rotation of the planet for their delineation. For unless the drawing be completed within twenty to thirty minutes at most,

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